Emission Reduction Technology Verification Overview

Anthony Erb
Retrofit Team
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Hardware Protocol Development & Applicability

- Development
  - OTAQ/ORD/ETV Public Process
  - http://www.epa.gov/otaq/retrofit/
- Applicability
  - Heavy Duty Highway and Nonroad Diesel Engines
  - Commercially Ready Technology
  - Oxidation Catalysts
  - PM Filters
  - Engine Modification

Hardware Protocol Process

- Initial Application
- Verification Testing
- Submit Full Application (follow EPA specified format)
- Verified Technology List

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Initial Application

- Company name
- Contact information
- Type of product to be verified (submit information on all components)
- Name of product to be verified
- Application (e.g.. mobile heavy-duty diesel highway and non-road engines)
- Applicable engines
- Emission reduction range for pollutants : NOx, PM, HC ,CO, CO_2
- Description of operation

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Verification Testing

- Develop Test Plan
- Federal Test Procedure (FTP)
- Applicable CFR requirements
- Minimum of 3 test sequences
- Determine 95% confidence interval
- Determine emission reduction level
- Measure NOx, PM, HC, CO & CO_2 with additional measurements as necessary
- Durability Testing
- In-use Testing

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Application Submittal

- Use EPA Specified Format
- Product Information
- Manufacturer Information
- Test Information

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Verified Technology List

- www.epa.gov/otaq/retrofit/retroverifiedlist.htm
- Verified Products
- Emission Reduction Levels
- Technology Applicability

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Protocol Development and Objectives

- Three Protocols
  - PM Filter, Catalyst and Engine Modification
  - Fuel and Fuel Additive
  - Selective Catalytic Reduction
- Objective
  - Verify the performance of technologies through evaluation of objective/quality assured data
  - State Air Quality Planners, Fleet Owners and others need verified technologies to use in retrofit projects

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